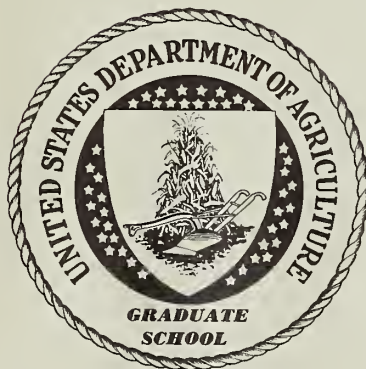


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The
**PRESENTATION
CHART**

Its Use and its Preparation



GRADUATE SCHOOL
UNITED STATES DEPARTMENT OF AGRICULTURE
1961

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The
**PRESENTATION
CHART**

Its Use and its Preparation

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A HELPFUL GUIDE FOR
PROGRAM AND MANAGEMENT OFFICERS
IN PLANNING VISUAL PRESENTATIONS,
AND ESPECIALLY FOR GRAPHICS
PERSONNEL WHO PRODUCE THEM

by Garnet W. Jex

U. S. DEPT. OF AGRICULTURE
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UNITED STATES DEPARTMENT OF AGRICULTURE
Washington 25, D. C.

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U. S. Department of Agriculture

Graduate School

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Foreword

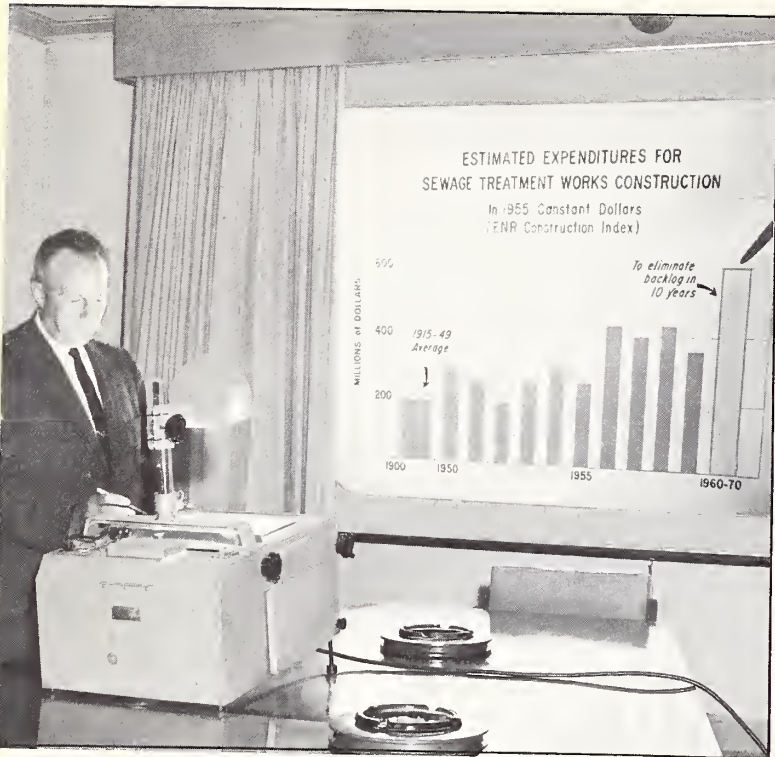
World War II gave tremendous stimulus to the art of rapid communication of facts and ideas through presentation techniques. Thousands of people, both military and civilian, had to learn new things swiftly and surely. The visual media responded to the challenge -- old devices were refined, and new ones developed. They proved their value, and as a result they are being used more and more each year in education, industry, the armed forces, and particularly in government at all levels. The U. S. Department of Agriculture Graduate School, recognizing the importance of presentation, offers a course in "The Graphic Arts in the Federal Government " which gives special emphasis to the presentation chart in its many forms and uses.

This booklet, summarizing much of the material covered in the course, begins with a discussion on the chart and its importance today. Then it considers in turn the problems of the user (or client), the graphic supervisor, and the production staff. This is generally the breakdown of responsibility in any fairly large organization, although no two situations will be completely identical.

It is the hope of the Graduate School that the experience of the staff, and their many professional associates who have given so freely of their time to this course, will be helpful to others in the field.

Special thanks are due to the author's two good friends in the U.S. Public Health Service: Harold F. Eisele, Ph.D., Program Office, Bureau of State Services, and Horace G. Ogden, M.S., Information Specialist, Office of the Surgeon General; also to Mr. Maurice Eysenburg, Graphic Designer, Department of State, his colleague in teaching the course; and to others who have given advice and read this manuscript.

July, 1961



Mark D. Hollis, Assistant Surgeon General and Chief Engineering Officer, U. S. Public Health Service, using the overhead projector in an Advisory Board presentation.

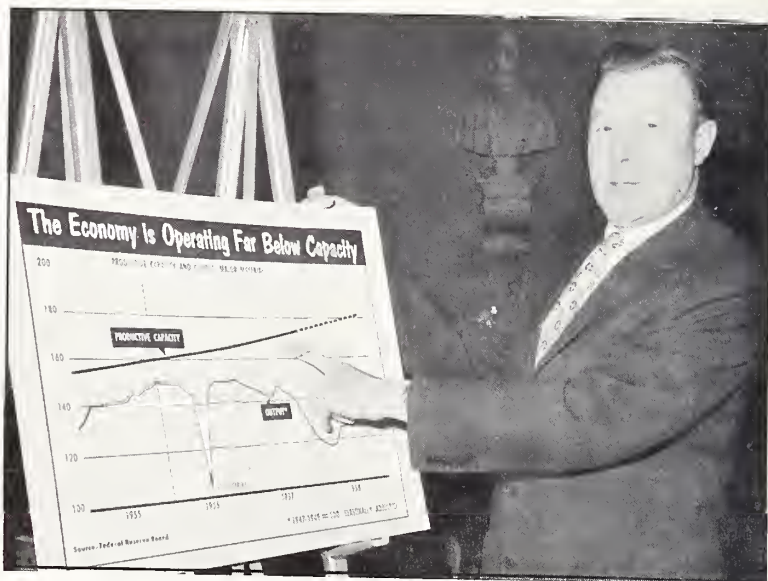


Governor Nelson Rockefeller, former Under Secretary, U. S. Department of Health, Education, & Welfare, frequently accompanies his presentations with charts.

PRESENTATION CHARTS IN USE



Chairman Ralph J. Cordiner, of General Electric Company, addressing stockholders meeting, using chart series "Operation Upturn".



Walter P. Reuther, President of the United Auto Workers Union, with chart supporting his testimony before Senate-House Economic Committee.

THE PLACE OF THE PRESENTATION CHART

Government, Industry and Other Groups Tell Their Story With Its Aid

" I want that chart nailed to the wall . . . See what you have done to the program! " So exclaimed the minority leader of a House Committee, appealing for a restoration of funds by Congress. The simple chart told the story at a glance.

With good visual aids a Congressional Committee hearing may point up a needed decision in a fraction of the time required with reports, testimony, tables of facts and figures, and much discussion. A Bureau chief can accurately and concisely brief the busy Secretary on a program's status. The president of a corporation finds charts helpful in reporting his company's growth to stockholders at an annual meeting. The chart is in the big leagues now.

Just as the chart serves a useful purpose in decision-making at the highest level, it likewise can tell the story down through the echelons of organization to the rest of us.

The busier we are the more we demand that the message be brief, clear, accurate and easy to look at. The presentation chart with its immediate impact is all these things. Eye and ear are bombarded at the same time. Words and visual image reinforce each other.

The chart is a valuable aid to the speaker, and above all it is an aid to understanding by the audience. And that is what counts most. It holds attention and increases retention.

Admittedly, presentation is "selling" of a sort. Not just the "soft sell," for very often it strongly shows the need for decision and action. Each occasion demands its own sales pitch; sometimes subtle, sometimes blunt. There is an art to it, and a lot of common sense is needed.

It is important to remember that a chart series is an aid to thinking, not a substitute for thinking. No series of charts is better than the thinking that went into it. Charts can achieve clarity, but they cannot create clarity. Planning a chart presentation imposes a special kind of discipline -- suiting the word to the picture, the picture to the word, and both to the audience. If the presentation is dedicated to the principle of making "nothing" look like "something" it will fail -- and it ought to.

A typical series may include several standard varieties of charts, to show trends, comparisons, relationships, and even abstract conceptions.

A trend chart will usually have a vertical quantitative scale at the left, with one or more bold lines moving from left to right, and a time scale below. It could show the weekly incidence of poliomyelitis during a current year, or years; the fluctuating prices received for beef cattle; the number of freight car loadings per week; or electric power consumption, sales of refrigerators, automobiles or what have you.

For comparisons, vertical or horizontal bars are often used with quantity and date scales; or segments of a circular "pie". Examples could be the comparison of urban and rural population in the United States, by decades; the life expectancy of males and females from 1800 to 1960; what part of a dollar goes for salaries, dividends, taxes, etc.

Relationships may be shown by areas, boxes, maps, symbols, or other devices tied together in a flow of movement. How do the complex organizational units of a program fit together; how does river water go through a purification plant to industry, to homes, to sewage treatment plant, then back into the river, and on downstream to the next town; what is the relationship of living things in the river to its degree of pollution, and what happens to the economy on its shores? A chart showing relationships, in addition to a directional flow, may have "feed-backs" from separated areas to the source and to each other. Some characteristics of these three groups overlap.

In a somewhat different class is the chart which can visually pin down an abstract idea, such as capitalism vs. socialism; democracy vs. autocracy; an economy of thrift vs. indebtedness. Words themselves are symbols, and there are occasions when words alone are adequate. Photographs, in combination with art and type, have a place too.

A good chart can stand alone and tell its message. Like a newspaper headline its title must be a simple statement whose well chosen words in proper order sum up what the graphic elements below portray. Its language must be keyed to the level, or professional interest, of the audience. We Americans are careless in the exact use of every-day words. Specialists, accustomed to their own scientific language, are often deficient in this ability. Words must be weighed so they mean precisely the same thing to all people, and so must all the art elements used.

In a series, though each single chart tells its own story, there must also be developed a relationship to the others. This requires a well-considered outline and visual continuity.

Thus equipped, a speaker may choose to merely quote from his charts, or he can elaborate upon them. He may extemporize, but always come back to them. They are his fixed outline.

Simplicity is the key. Each chart should contain only what can be grasped in about half a minute. Better to have more and simpler charts, than fewer complex ones. Yet never so many that time goes on and on.

Our presentation chart belongs in a special class by itself. It must not be confused with the statistical chart which has its own rules for preparation, is often intended for the printed page, supplements a lengthy study, and is meant to be studied, along with narrative, tables and references. Nor must it be confused with the detailed engineering flow-chart, or the involved organization chart. Beautifully printed reports and publications of industrial corporations often contain handsome illustrated charts in full color. Their cost and complexity are not essential to effective presentation.

Conforming to the same basic rules in its preparation, the presentation chart may be shown effectively before an audience in several different ways. It may be held or supported directly on an easel or stand, by the speaker or an assistant. It may be transferred to black and white or, preferably, color film, and projected on a screen in a darkened room. Or it may be shown in a semi-darkened room by means of a so-called "over-head" projector. The latter device makes possible a more flexible presentation technique and will be described later. Each method has its own advantages and disadvantages, depending on the speaker's skill and preference, and available facilities.

It is relatively easy to distill concrete factual matter into an effective presentation. Nebulous subject matter, a philosophy, an ideal or a concept are much more difficult. It will take some imagination, some groping for the right approach, to crystallize and bring this thinking down to the flat surface and boundaries of a chart. But it can be successfully done.

An example is the handling of the broad concept of the purpose of our Bureau of State Services in the U. S. Public Health Service. Even with a great number of seemingly totally different programs, such as heart disease control, tuberculosis control, water and air pollution control, dental public health, international health, and many others, there is one common denominator - the adaptation of laboratory research into action programs which bring the benefits of this research to people. After some trial and error a simple but successful chart was evolved. Its title read, "Translating Knowledge into Practice", followed by areas in color labeled Research, Demonstration, Training and Consultation, in a sequence leading to "State and Community Public Health Programs". This initial chart served to introduce the major program areas and fitted perfectly into the total presentation.

THE USER OF PRESENTATION CHARTS

His Needs and Responsibilities

The user of presentation charts is always a person of responsibility who must get an important story across to other persons or groups. To the art staff he is the "customer", the "client", or the "boss".

In Government he may be a program or bureau chief, even the Secretary of a Department. His typical presentation will be made before superiors, a high-level staff meeting, the Bureau of the Budget, a Congressional Committee, and to outside boards or advisory groups. Chart presentations have been successfully made for recent Presidents of the United States. In industry, also, there are comparable strata of administration successfully using the presentation method. It is an excellent orientation device.

The content, or story, may be any one of a thousand problems -- perhaps the explanation of some new concept, the progress or status of a current operation, the adoption of a new program, or the fate of an old one. Often an important element is justification for the appropriation and expenditure of funds, whether \$100,000 or \$100,000,000. It may mean fulfillment of purpose, careers and jobs for people.

AN AID TO THE SPEAKER

There probably never was a "natural born" speaker. Even the best continue to have some stage fright beneath their outward assurance, and the appearance of enjoying the challenge of facing an audience. They work hard to attain perfection in enunciation and delivery. A great deal of time is given to careful preparation for each important speaking engagement.

For the accomplished speaker a series of charts is a useful tool. Very likely he will develop an expert skill in integrating them with his narrative. For the self-conscious speaker they are a welcome, solid support, for the charts give him an outline to follow, and attract attention to themselves.

Sometimes the team, or panel, approach to a presentation adds variety, interest and conviction by the evident pooling of knowledge and authority. The leader may call upon Doctor Jones for a professional opinion, Colonel Smith for technical advice, and Mr. Brown for facts and figures.

One common fault with the inexperienced person, or team, is to constantly break the smooth flow of the narrative by repeating "this chart shows..." "this slide says...", "here you can see that...". Of course the audience can see,

without telling them to. Experience and rehearsal can give a presentation that smooth audio-visual flow which is a pleasurable as well as an informative experience for all who are present.

THE AUDIENCE

Although the Chief's smooth presentation is the happy result of careful planning and staff work, the real pay-off is how well it gets over to the people out front -- the audience.

Very early in the planning stage must be an awareness of the understanding and the attitude of the audience. This determines content as well as language and complexity. The approach will be one thing for a small well-informed, professional group in the particular field of activity, and something else for a large audience with merely a general, non-technical interest. Will these people be friendly, hostile or neutral? How much do they need to know? A common error is to include too much material, especially for the non-technical audience.

DIVISION OF RESPONSIBILITY

In the planning stage it becomes necessary to assume and delegate responsibility to insure the success of the presentation.

The Chief himself must be responsible for the general guide lines of content or story-line. He must delegate, if need be, certain technical details to experts, and preparation of the narrative to a competent writer. He must make certain of policy clearance at an early date, when charts are in the sketch stage, before finished art has been started. He must work with his graphic supervisor in selecting the most effective medium of presentation, in developing graphic ideas, in setting the tone of the presentation, and in being available for adequate rehearsal. Teamwork is essential. The client must be cooperative and accessible.

With the theme chosen, an outline of essential points should be developed. This will be rounded out to form the total presentation, with facts, words and graphics.

The technical side of the story is often the basis for the whole project, the work of experts in their respective fields. Their knowledge and findings must be put into understandable language and into visual form. Likewise for the supporting statistical and financial data. The writer assigned to the project is preferably one who knows the program thoroughly, and knows the chief's views, personality and speaking ability, and has his respect.

Sometimes quite honest differences of opinion must be resolved. Reasonable people can always find a solution, keeping in mind the success of the presentation. And in providing guidance for its visual effectiveness the graphic supervisor makes his very real contribution.

PLANNING THE PRESENTATION

Sometimes the presentation is a "one-shot" affair. Important though it may be at the moment, as such it will not be repeated. Rarely should a staff go over-board in expense for a single showing. A critical viewer may ask some embarrassing questions regarding cost and staff time. There are several short-cuts in making "quickie" charts. One is with flip-charts rendered on paper. Graphics with pastel, crayon or brush can be of sufficient quality though rapidly done, as can freehand or LeRoy lettering.

But generally the story to be presented, which tells of an important program or activity, will be semi-permanent and for multiple use. In addition to the basic set of charts, extra ones can be added so that approach, emphasis, and length of time may be varied for different audiences. Our Department keeps the original charts on call in an indexed rack. If slides have been made, an editing job with a desk viewer will match the right slides with each new narrative. An additional chart or two may be all that is needed.

Experience will tell the client and the writer what the graphics man already knows--that the simple chart is best. The cluttered one is bad on two counts. First, detailed material and small type cannot be read from more than a few seats back. Second, stating everything on the chart leaves nothing for the speaker who can do little more than read from it. He might also wish to omit some of the stuff, but finds that he is stuck with it. Better for the speaker to have only the framework, outline, or points of emphasis on his charts so that he may extemporize. The human element means a lot; he and the audience will like it best that way. Detailed material belongs on the printed page.

Serious-minded people want straight-forward factual material, well presented. The show which is too "arty" lacks conviction, and may be criticized because of needless expense and effort in preparation. Nevertheless, a sufficient amount of art in good taste and used with discretion, in the form simple or stylized art spots, illustrations, or symbols definitely adds attractiveness, clarity, and variety. Color should be used whenever possible.

Consider carefully the use of humor on the charts. A cartoon treatment may be effective in some situations; it may be completely out of place in others. Humor may go stale. Often it is better for the speaker himself, not the charts, to provide the humor. He will know best when and how to get off the joke or wise-crack;

whether to apply the light touch or to keep the discussion on a serious note. Do not be "corny", bringing trite, hackneyed phrases or art elements into the presentation. Though a favorite word of derision among writers and artists, "corn" still needs some clearer definition. Yet there are occasions when commonplace expressions are better understood by some groups of people than are obscure technical terms, or some visual treatment which may be new and original but has to be explained to be understood.

IMPORTANCE OF "ROUGHS"

Before any attempt at finished art, should come a series of idea sketches, or "roughs", in miniature size, to get the thinking straight and the sequence smooth. These should be reviewed and criticized by all concerned, several times, until all the "bugs" are out. This is the time also for technical and policy clearance, before final O.K.

Now also can be worked out the visual aspects of both design and color. These sketches cost little in artists' production time. To go into finished art at too early a stage, only to have extensive revisions and changes made, or whole charts redone, is a waste of both time and money. Likewise it is evidence of poor planning, and quite frustrating to the staff.

I remember with gratitude how the chief of a very large program in our Service, who uses charts well, insisted that we give our "roughs" to him personally for highest policy clearance before doing any finished art as had first been requested by a subordinate.

In the film-makers parlance, these sketches provide the "story-board" stage. They will be placed on a board or panel in a tentative order and studied carefully. Changes may suggest themselves. The story may have to be tightened up or rounded out. Colors may clash, or wash out. The sequence may be managed in alternate ways for emphasis; to be played like a hand of bridge, leading with the ace for a quick trick, or holding back trumps to clinch the story.

PRESENTATION METHODS: REHEARSAL

Now, or earlier, may be the time to decide upon the physical manner of the presentation, whether to use the actual charts themselves, or project them upon a screen, and also what type of projection. Size of room and availability of equipment will largely determine this. However, there will be little real difference in planning the story whatever method is used.

When the final art is delivered, whether the large original charts themselves are to be used, or whether they have been transferred to slides for projection, a

rehearsal or "dry run" is in order. The time element becomes all important. The presentation must be delivered within actual allotted time. Generally it will have to be condensed or cut. How it sounds is also important. A tape recording played back is a good idea. Facilities should be checked. How embarrassing it is to have a projector bulb blow out, or an extension cord not reach.

The speaker who likes gadgets, or who has a little of the actor in him, will enjoy any one of the types of overhead projector which permit him to add a personal touch to the presentation. As he talks he can place overlays upon the base slide, or lift them off in order. With an opaque pencil, he can draw direction lines, arrows, letters or symbols on the slides. He can also write or draw upon a black-light blackboard with fluorescent chalk, or place objects on a magnetic flannel-board. Or he can team up with a skilled assistant who will do those things keyed to the talk.

It takes poise, luck, and a sense of humor to retrieve a catastrophe. A filmograph on accident prevention, which recently won a national award, was to be presented at a high-level staff meeting. Facilities for projection and sound had been hastily set up. The Program Chief made his introductory remarks. Lights were switched off. The sound blared forth and the title flashed upon the screen "Accidents Don't Just Happen!" Then Clatter!! Bang!! Crash!?! The Chief tripped over the extension cord and the sound box came tumbling down. Everybody roared. The embarrassed chief was asked if he planned it that way. He had to laugh with the rest of them. Foresight and rehearsal prevent such situations.

EXTRA DIVIDENDS

A valuable by-product of presentation has been referred to as "mental house-cleaning". The user, and his staff, benefit by being forced to organize and clarify their own thinking. It is often amazing how vague some concepts have really been and how difficult it is to boil them down, so that they may be expressed clearly, in simple, orderly language everybody can understand. Relationships of one part of an operation to another may never have been clearly defined until the need arose to chart them against the backdrop of the rest of the program. People too easily let themselves believe that their own area of activity is the most important until its true relationship to the whole has been clearly portrayed.

Language too gets cleaned up. Especially in professional and technical fields, words and expressions are used which do not have the same connotation outside a limited group of workers. The English language is adequate if used well; there is no need for gobbledy-gook.

And above all it is well to remember that good presentation is audio-visual. It is effective because it is both heard and seen.

THE GRAPHIC SUPERVISOR: HIS PROBLEMS

The key person - or perhaps the one caught in the middle of a presentation project - is the Graphic Supervisor. To him the Chief and his advisors turn for ideas, facilities, equipment and art production.

He has a variety of titles in Government and out, varying with the agency, its organizational structure and size, and his responsibility. He may be the Chief of a large graphic or visual aid division, section or branch, which also turns out an assortment of publications for wide distribution, and exhibits to be displayed at national meetings. Or it may be a small shop with limited personnel and talent. Few shops produce only presentation charts. He may be called a visual information specialist, a project supervisor, a graphic analyst, or a visualizer. In Government his grade may range all the way from GS-9 to a few at GS-14, with salaries from \$6,435 to \$13,510 a year. Salaries in industry are roughly parallel. He needs imagination, resourcefulness, endurance and an ability to get things done. He must know programs, audiences, and speakers' ability and personality. A pleasant person, with whom all can work on a first-name basis, is a great asset. Direct contact is important. He should be more than just a "leg man", who through several official echelons, receives the Admiral's or the General's request, then bucks it to an assistant, who in turn gives it to another person, and so on until some little fellow at a drawing board tries to whip up a presentation from directions now so confused that the Chief would never recognize his own project. In derision it has been said that an art director is one who wears a beret, has a little trimmed moustache, carries his carefully folded handkerchief in his lapel pocket, and subscribes to one sophisticated art magazine. True, there are a few characters like this who know all the patter, and that only, and who somehow get into supervisory positions. But we notice that in time of recession, or reorganization, these and others who contribute very little are the ones out looking for jobs. A graphics shop does need a capable directing head. Sometimes an administrator, who may not have been an artist, can coordinate a graphics set-up within his overall operation. There are examples of this.

It is a privilege to know many artists and graphics people who have risen to supervisory positions strictly on merit. They are friendly, helpful to younger workers, and always exploring new ways of doing things. You soon know that they know what they are talking about. A staff respects their professional attainments, their ability to plan well, their knowledge of production problems, and their willingness to put out as much energy as anyone else. In the supervisor's "job description" there may be nothing which permits him to leave his desk to work at the drawing board. Yet the staff admires the man who not only dishes out work but can skillfully design an exhibit or a booklet, render a fine illustration, or do some part of the presentation. These fellows are always in demand in government, in commercial agencies, and can free-lance.

..

The able graphics supervisor will hold out for competent and adequate planning, with definite guidelines furnished by executive and technical men. Experience and common sense tell him whether a project is feasible from a visual standpoint, and how it will look and sound when produced. He is the best judge. He insists on a quality product: an audience is never concerned with a staff's behind-the-scene headaches, only with the effectiveness of the final result.

STAFFING

He will choose for his staff the best artists he can get. The best ones are usually fast, and take pride in their work. Good art costs less in the long run than that executed by poorly trained people. A problem can be the know-it-all official in high place who considers himself an art critic, a would-be artist or photographer, who pulls rank or insists on inflicting his half-baked opinions, or in some cases even his own handiwork, upon the art staff.

Lucky is the supervisor who inherits, finds, or develops good people. He will owe much to them. Seldom will fine art schools or official employment services provide them ready to go to work. It is often pathetic to see the samples which applicants present. Once in a while however, someone walks in with a fine portfolio and experience. Helpful, generally, in recruiting is one's personal knowledge of an available person, or recommendations from trusted friends, or from organizations of artists which provide an informal employment service for members. When an artist is really good his reputation becomes known. The ideal staff has a balance of the right skills for the production of a whole range of excellent visual materials, including presentations. The smaller shop often is handicapped.

Sometimes, even with a large staff, the current work load will not permit a full-scale presentation to be undertaken and delivered on short notice. That is where commercial studios come in. In government we have a negotiated contract which covers just such a situation. Prices may run higher, and justifiably so, for in addition to excellent talent, they have an inescapable overhead in rent, taxes, utilities, and a front office. But it is worth the investment in order to meet deadlines and to obtain a quality job which may be used over and over again. Smooth direction and liaison by the graphic supervisor or his commercial counter-part are important.

PLANNING FOR PRODUCTION

It must be determined early whether a presentation is to be a one-shot performance, or of permanent value. "Quickies" may suffice when it is understood that their useful life will be brief. But our concern here is with the carefully thought-out, well-rendered presentation to be used many times.

Years ago as a free-lance artist I learned that an editor demands two things: good art in the style he wants, and delivery on time. It still holds true. In a large

organization an art staff often ranks down near the bottom of the administrative totem pole. It seems as if every Tom, Dick or Harry higher up can take all the time he needs to make up his mind on policy, content and detail, then expect immediate delivery of the finished art. What they need is a GS-18 Magician armed with plug hat and wand and able to pull 35 beautiful 30"x 40" charts out of the hat "yesterday". The graphic staff must perform miracles, and hope the front office appreciates the effort that goes into a comprehensive production job.

An experienced graphics chief foresees problems, gets channels cleared, and talent and materials lined up so that when a project is ready for production his team may go to work without interruption. He can prevent many an ulcer. A planned production schedule is a must. He tries to get it done in an eight-hour day. But many a supervisor has taken his work home with him, and worked nights and week-ends, with little or no extra compensation. However, the production staff at their drawing boards are usually allowed over-time pay on a standard scale, if authorized in advance. Just as it hurts morale to work all hours without just compensation, especially if there is a sense of futility because direction is poor, a high morale can be obtained if over-time pay is assured, directions are clear, and purpose defined.

DESIGN

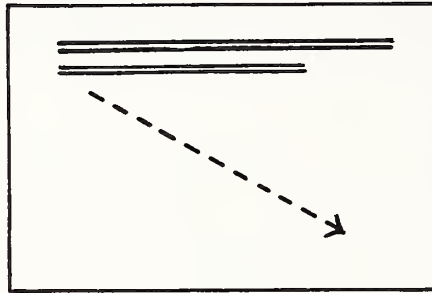
Someone has said, "Design is the flow chart of thinking." How true - particularly in the graphic arts. Line, pattern, color and tonal relationships all can lead the eye of the spectator toward a visual destination. Through careful calculation the design of each individual chart, and the overall management of the entire presentation, can direct a flow of thinking.

There should be an awareness of a sort of logistics. In military language this is the science of getting the right men and material to the right place at the right time. In visual planning one puts the right visual element, in the right place, in the right interval of reading time. And stated only once. Repetition is valuable only for emphasis or recapitulation.

Graphic design begins the moment a line or shape is placed on a surface. It can be good, bad or in between. In presentation, with brevity and clarity the key, design is at the same time easy and difficult. It is easy in a sense because simple, familiar chart forms are used, and art elements cannot be very detailed. But just as Mark Twain once apologized to a friend for writing such a long letter because he had not time for a short one, in presentation it can also be difficult to boil down a broad subject into basic, elemental terms, and come up with something visually simple, attractive and yet comprehensive in what it stands for.

There are standard rules for charting which should be followed, but keeping in mind that in purpose a presentation chart differs from the usual statistical or other form of chart. Beyond these standard rules can also be a smart use of design, type, color and some art-very effective if well managed.

People whose reading habits evolved in Western Europe read from upper left to lower right. In spite of our accent on individuality, most of us still react pretty much the same to given visual stimuli. Presentation takes this into account. A chart should begin with a major title, and perhaps a sub-title, with a general directional flow thus:



I recall a set of charts on slides prepared for a large government service. When projected, the viewer was impressed by their beautiful color, pattern, and art. But they were almost unintelligible to a lay audience unless given a lot of study, or accompanied by an expert to explain them. There was no uniformity in reading flow. The first began in one corner, the next in another, or in the middle. They failed. Well planned charts even though crudely rendered, would have done a better job.

PRELIMINARY SKETCHES

Some of us like to begin a visual project by ruling a grid of rectangles on a large piece of drawing paper, board, or a layout pad. Then in each space we place

	ETC.				

a sketch, or a notation, for a proposed chart, indicating content in proper sequence, with the time element in mind. This is also useful in developing a complete brochure or booklet, a film strip or a filmograph. It is amazing how often a final production conforms to this first attempt at layout. "Doodles" at random with pencil and scratch pad are helpful while groping for an idea or design which must be pulled out of thin air.

Next, an intermediate but more exact stage in planning must come before undertaking finished art. It is the so-called "story-board" stage, consisting of a set of miniature charts, quite complete in themselves, to be displayed in sequence, for review by

the client and his staff of experts for comment, criticism, changes and approval.

A convenient size for these sketches is 5" x 7", which is roughly 1/6 the dimension of a 30x40" piece of standard illustration or TV board. At arms length their elements are relatively as visible as though on full-size boards 40 feet away. Plan the smallest type so that when enlarged it will be at least 1/2 inch in height. After official O.K., these sketches, if carefully drawn, can be given to the production staff as the basis for finished art, and later filed.

" MILEAGE "

This is a handy term in graphics. Just as one hopes to get a lot of service from the tires on his car, so should a good graphic production continue to serve. It can be planned so that the originals themselves are used many times, or with little or no change converted to another visual medium. The same art which is held up before a local audience may be placed on film, or printed, for other audiences thousands of miles away.

There are various standard film sizes and proportions to which the art must conform. The common 35 m.m. film is in a 2x3 proportion, in a 2"x2" square cardboard, glass or metal mount. There is also the "super" 35x35 m.m. slide. There are 2-1/4" x 2-1/4" slides and large 3-1/4" x 4" glass slides. Then also there are two sizes for the squares fields of overhead projectors, 7" x 7" and 10" x 10". It all seems confusing at first, but there is a practical reason for each.

If art is to go on film only, it may be done fairly small on paper or board, say 8" x 12", with the critical area 8" x 8", leaving margin enough in case either 2x3, 3-1/4x4, or square proportions are used. For the overhead projector, the art may be drawn directly upon the transparency, or prepared larger then photographed down to proper size.

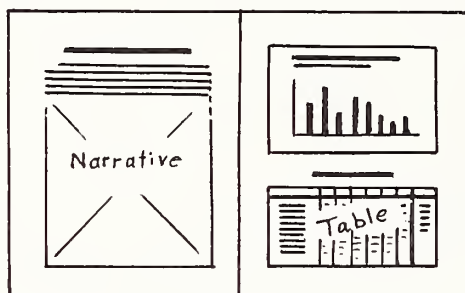
Miniature cameras and film are less costly, yet quite efficient. These and their projectors are readily available. As any image reduced to 35 m.m., then projected upon a screen, loses more definition than when a larger film size is used, it becomes imperative to use simple, bold art elements. Even for larger film sizes, objects should never be really small, for the human eye begins to lose them several rows back in the audience.

It is often asked whether it is best to mount smaller slides in cardboard or glass. Below are some of the advantages, and disadvantages of each. For constant use, the slide should be between glass.

In Cardboard Mount		In Glass Mount	
Advantages	Disadvantages	Advantages	Disadvantages
.cheaper	.collects scratches	.no scratching	.costs more
.lighter	and finger prints	.can clean glass	.heavy
.less bulky	."pops" with heat of	.does not "pop" or	.broken glass will
.no fogging	projector	jam in projector	injure film
	.buckles and may jam		.fog may collect
	in automatic projector		inside glass

What size originals? Some organizations still insist on using monstrous 40 x 60" boards, and apparently like them. But imagine carrying them in a car across town! A popular size for direct presentation is the standard 30 x 40" board. In our service, for a smaller audience, we like 20 x 30". They are easier to handle on the drawing table, easier to photograph and file away.

More mileage may be gotten from the same art if printed. Loose or bound, these sheets make good handouts at meetings, or can be distributed to other interested people. Our Department frequently does this, by offset, the chart in "line" or half-tone, with an accompanying narrative and table of supporting data, arranged on facing pages thus:



Multiple use of graphics saves staff time and money. Money can buy every graphic service, all the talents, and top-flight planning. But operating with limited budget and staff is something else. Yet there can be excellent results-- with an important story to tell, plus planning and design. Out of the old western saloon poker game has come an appropriate bit of cowboy philosophy; "Life ain't just in playin' a good hand; it's in playin' a pore hand well."

LANGUAGE

The graphics man, in addition to knowing his own field, is still more valuable if he has a working knowledge of the program area with which the presentation is concerned. Just as art and graphics have their own terms and definitions; each other professional field has its also. Knowing their subject matter and language is a broadening experience, it avoids the embarrassment of appearing uninformed, and is essential to good visual interpretation.

Though words would seem to be essentially someone else's business, they concern a conscientious graphics person. Spoken or in print, a smooth-flowing, well rounded narrative is one thing, while the visual impact of a chart with single words, short phrases or sentences, is something else. In the first instance words are in context, with qualifications, and shades of meaning. Set down in a stark visual relationship with other parts of a presentation, and seen only for a moment, their meaning must be complete, definite, and accurate. It is wise to have a comprehensive dictionary and a thesaurus. Think of the sound of words. Grammatically, be consistent in the construction of titles and phrases. Titles are like newspaper headline: they introduce what follows.

Language must not be too technical, nor should it be too elemental. Do not fear proper technical or scientific terms in the right place. Often there are no satisfactory substitutes. Some lay audiences may just as well learn these words. A good language level for a cross-section audience is that of a scientific article in "Life" magazine.

If words, or "copy", dominate a chart or slide a good rule-of-thumb would be: no more than 12 horizontal lines of type. To crowd in more makes it hard to read 10 or 15 rows back. Besides, that amount of copy gets monotonous, takes too long to read, and should be edited. Let the narrator develop the theme further if he chooses.

In some situations it is better to use a chart consisting only of key words than strain too hard for a far-fetched graphic treatment which needs explanation. A word in effect is a symbol which calls up an image in a viewer's mind. Arranged as an outline, or in some pattern, they can supplement a narrative, and give a firm visual support to a nebulous, abstract discussion. "Reverses", swatches of color, give emphasis to certain words and make the chart more interesting. Also there is a right type face for every occasion.

SYMBOLISM

The art or science of symbolism is as old as mankind. The alphabet in our language, words in the Chinese, have their origin in pictorial symbols. Medieval heraldic coats of arms were symbols; present trademarks stand for an endless number of things.

In chart making, lines which flow from left to right suggest trends, vertical or horizontal bars invite comparisons, segments of a "pie" indicate division. We are already conditioned to this interpretation.

We get bored however with the repetition of lines, bars and pies. The occasional introduction of a good art symbol, a "spot" illustration, or even a photograph will relieve this situation, even for the most matter-of-fact audience. Though the photograph precisely depicts reality, it may also imply, or serve as a symbol for some broader meaning. But when introduced, these elements must serve a useful purpose, never be merely

ornamental. They must be readily understood, and call up the same reaction in all people. Use a symbol only once, in the right place, and large.

Twenty-five years ago American chart makers began using pictographs or isotypes which were popular in Europe. We loved them for bringing a fresh note to chart making. These are little stylized silhouettes of men, women, ships, cars, bales, etc., placed horizontally simulating the bars of a chart. Each represents a unit. But if unintelligently used in long rows the reader has to count them. That requires mental effort. A solid bar will suffice.

A seemingly difficult abstract idea, a concept, or a philosophy, poses visual problems which can be resolved with a knowledge of the subject and some imagination. The usual trend, lines, bars, and pies are too concrete, but a symbol, or even words in a careful arrangement, will evoke a mental response in the viewer, serve as a framework for the discussion, and keep it down to earth.

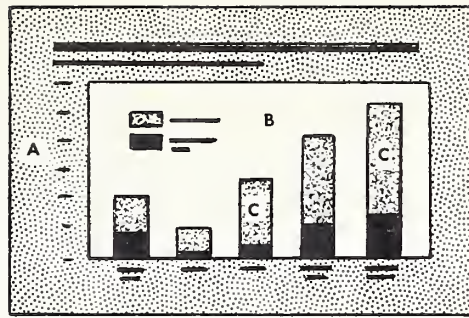
To relieve the strictly matter-of-fact, there is some excuse for trite but clever art elements or expressions, if used with discretion. They must fit the audience, and be timely. People get accustomed to some of this, but it must never be a cover-up for careless thinking.

COLOR

Color has a definite place. In good taste and without being too obvious, it will please and hold attention. Color can be soft or violent, in harmony or in contrast. It has a psychological value. We associate white with purity, yellow with light, red with danger or heat, blue with sky or water, black with death or evil, and so on. There is a whole science of color.

In our shop, we make most of our charts on TV board which provides a base color of about a 30% gray. Any opaque material can be used upon it. "Color-Vu" or "Color-Aid" papers have become invaluable in the relatively few years they have been on the market. There are some 200 shades of each brand, from pale pastel to deep rich tones, from which to make areas, bars, or shapes. With the gray background both black and white also become colors, and on it white and the paler tones are especially brilliant. Opaque inks, paints, colored tapes, and Zip-a-tone can easily be used, even pastels and the air brush.

Large areas of white are unsatisfactory. White soils easily, and is too glaring. Especially when projected on a screen in a dark room it is discourteous to an audience to bounce back too much white light. Any tint is better. We have found that an effective color scheme may have a general base (A) of gray TV Board, a background for the critical area (B) of a pale Color-vu tint or even white, and chart elements in positive colors (C, C). This has more sparkle in many cases than if the whole background were gray.



On film, color plays tricks. Deeper tones have a tendency to go blackish. Very pale ones wash out. By a sort of halation or bounce, dominant colors eat up weaker ones. Red fights its complement green, strong yellow fights pale blue. There are variations in batches of film, and in the day-to-day chemical solutions in some of the processing plants. But on the whole, if a few precautions are observed by the art staff, and with careful shooting by the photographer, a fairly accurate color reproduction will appear upon the screen. One important rule: stay in the middle range of color tones insofar as possible, avoiding the very dark and very light.

When preparing work for first uses in color, then to be followed by black-and-white photography, or printing, it is necessary to know how various colors will reproduce. A chart for guidance can be made showing what happens to all the color tones when shot in black-and-white. To preserve the pale areas, they may be outlined or covered with a Zip-a-tone pattern.

Many of the same color rules apply when preparing slides for the overhead projector. Again, white areas should be kept to the minimum. The operator can learn to change slides in a way to prevent glare by covering the bright field with a black or colored blank slide.

A color presentation costs very little more than one in black-and-white. It is far more satisfying and effective, and a lot more fun to do.

FACILITIES FOR USING CHARTS

The means by which visual materials are displayed before an audience is of great importance. Place, facilities, time, personalities; someone must know these factors, and provide the right equipment.

There are speakers who still prefer to use original charts directly, supported by a rack or an easel, perhaps with an attendant to lift them on and off. In one Department the Secretary's fully-equipped conference room has the two long facing walls with adjustable fixtures to hold several rows of charts for an extensive presentation. It is possible to progress through a whole series, as well as return to an earlier one for reference. At one end of the room is a large screen, at the other end, a projection booth for films. This is not an unusual layout. Some rooms may be small, some very much larger, holding several hundred people, with a stage, a 20' x 20' screen, microphones and amplifiers.

The well-equipped conference room will have projectors for all the standard sizes of slides (see page 14), with ample wattage and extra bulbs for an emergency. If the Chief is making his talk in Dallas, Boston, or San Francisco, reassure him that his slides and the projectors available there will match in size. He may take both equipment and a skilled operator with him, to insure success. How much easier it is to carry slides than to carry big charts. And the chart's dimensions are increased many-fold when projected upon the screen.

An imposing array of new equipment has come upon the market in the last decade. There are aluminum easels and racks for flip charts. "Opaque" projectors throw flat material, such as may be on a printed page, upon the screen. There is the magnetic flannel board, and the blacklight, fluorescent blackboard.

Slide projectors have better lenses and lamps up to 1000 watts. With the semi-automatic cord and pushbutton attachment the speaker himself has absolute control of the timing of his change of slides, a real psychological support for him, provided the cartridges containing the slides are properly loaded. His voice also may be placed on a platter or tape, synchronized with the slides, and shipped by mail.

The so-called overhead projector with its great light intensity and powerful lenses throws a giant image on the screen. The room can remain partially lighted, with less likelihood of people drowsing. Notes may be taken by the audience, and the speaker may be seen as he talks. He can draw or mark upon the slides as he discusses some point. This is sometimes referred to as "poor man's animation", for acetate overlays may be flopped on or lifted off the basic art in sequence. There is even now on the market an attachment which can simulate the flow of water, the turn of wheels, the movement of people.

The graphics supervisor will be wise to keep alert to all methods and techniques. There are conventions, workshops and seminars where new audio-visual equipment is displayed. Company representatives are very helpful with demonstrations. Maybe, however, there is too much in the way of gadgetry. One must guard against being carried away.

Good presentations still require imagination and clear thinking, and skills acquired only by long training and hard work. Always there are three basic criteria for the successful project: (1) does it tell a significant story; (2) is it organized in logical order from start to finish; and (3) is it technically competent in its rendering and method of presentation?

If a graphics person can make a contribution along these lines he is a valued member of any organization. There is an ever growing field for his services when as never before we must get our message across fast, accurately and convincingly.

THE PRODUCTION STAFF: MAKING THE CHARTS

This chapter is addressed to members of the graphic arts staff who must actually make the charts used in a presentation. They are last in the chain of command. But even with the best of planning, the quality of their work can make or break a project.

A presentation is something a little different; we lack a definition of its kind of art. It certainly is not "fine art", often thought of as art for arts' sake. It is not commercial art, which generally aims to sell a product, nor is it illustration in the accepted sense. We borrow a little from all three.

We need artists, letterers and draftsmen; also sometimes the services of the photographic laboratory, and those who know special equipment. A large organization can justify and afford experts in diversified fields. A small shop must employ the jack-of-all-trades person, called upon to do many things.

JOB OPPORTUNITIES

The chart presentation, in becoming an increasingly useful medium of communication, provides one more field of opportunity for graphic skills. New techniques and equipment offer challenges. Getting a foothold can start a career or be a stepping stone to something else.

Just out of art school, searching for that first job, a young person all too often finds that he has much to unlearn, and many necessary things to master. A busy employer is reluctant to interview the graduates of some art schools who may have spent four years in courses there, and yet be unable to produce anything usable. There is sad disillusionment. These young people, if realistic about it, will start somewhere at the bottom of the employment scale, learning through that very good school - experience, and by association with artists who have made good.

Only a relatively few schools in the past provided art courses, other than for teaching, designed to prepare the student to earn his living in this rough-and-tumble world. However, it is gratifying that an increasing number of schools and colleges, in addition to fine arts courses, are now setting up others, with full academic credit, in the field of applied or commercial art. They aim to train students up to the level of ability required in the "bull-pen" of an advertising agency. This is also about the level required on presentation projects, or on the booklets, display pieces, and other types of art work on a production schedule.

Many students ask, "How do I get that first job?" There is no sure rule or pattern. Luck and circumstances get into it. One requirement must be recognized: the employer

will ask to see samples of the applicant's work which are recent, competent, usable, and unquestionably his own. Personality helps; recommendations help. The job does not necessarily have to be in a big city with its glamour. The main thing is to get the job and work at it.

In government, on a strictly production or drawing-board job, grades run from GS-5 to GS-11 (\$4,345 to \$8,860 a year) depending on ability, experience, type of skill, and the amount of supervision exercised.

SKILLS REQUIRED

Be thankful for a good supervisor who constantly tries to improve the capacity of his staff and the quality of its output. It brings higher morale, a pride in the organization, recognition and increased pay. Loyalty and respect are two-way.

Of course there are odd-ball characters among artists, just as in any other group. There is the person with more ambition than ability, as well as the one who gets into a rut, gripes about it, but stays there. The expert letterer, valuable as he is, will not earn as much as a good illustrator. The illustrator who does not learn the broader aspects of design, or who is unable to supervise others, or meet with clients in planning sessions, is also limiting his chances for advancement. But if each possesses solid ability in his own area of work, good management can keep them all reasonably happy and valuable members of the staff.

Thorough mastery of one or more practical, up-to-date graphic techniques is essential to success. A beginner may be shown how to do it by an instructor, but he himself must practice, practice, practice until he acquires that easy, sure facility which is the sign of the "pro". A glance at any graphic project will tell the viewer whether or not it is the output of a well-trained staff.

We admire a display of skill. Even when lack of time precludes a carefully rendered product, a "quickie" presentation with brush, crayon or pastel can have the charm of spontaneity - delightfully sketchy, not just sloppy. But when an employee is the type who turns out a prodigious amount of work, none of which is very good, there is the problem of how and when to use what he does, and how to improve its quality.

ILLUSTRATION

Unrealistically, too many young artists aspire to become top-flight illustrators. Only a few ever make it. Magazines with a national circulation offer fewer opportunities than a generation ago. But there is a broad market for the less ambitious illustration, often of a specialized type; or the so-called "spot" illustration in the growing number of limited circulation, or institutional type of publications, and in advertising. This is the bread-and-butter medium of many a well-paid artist.

In presentation the art-spot type of illustration, appropriately used, adds attractiveness. It may be a human figure, a symbol, even a cartoon. Simple in rendering, perhaps quite stylized, it must have a professional look, never amateurish. You just do not use high school art before an assembly of important people. Yet I remember a large, well attended workshop on presentation not many years ago, when the emphasis was largely on low cost and speed of production, with little said about quality. That emphasis happily has been corrected.

The good small illustration has design within itself, forms an interesting pattern upon its background, its brushwork is free and expressive, with evident sound drawing behind it. It may have texture and color, and must, if need be, reproduce well on film or by printing. The artist should always study how his work reproduces; otherwise it may lose much of its original quality.

During the early stage of an illustration it is advisable to sketch it in, correct or redraw on layout or tracing paper, then transfer it to the board upon which the finished art will be drawn or painted. This protects a sensitive surface from erasures, scrubbing and repainting.

STYLE

No artist can overlook style in his work, unless he is strictly a technical illustrator or draftsman. For better or for worse, style changes. People expect to see more or less contemporary art. Just as one should not confront a prospective employer with incompetent samples, he also should not show him samples obviously so dated by their style that they cannot be used today.

Extremes of style, the zaney, almost unintelligible kind sometimes claiming to be ultramodern, or abstract, is not very usable in presentation. Of course experimentation is most commendable. Substance is still necessary, with forms recognizable by an audience. Good style still allows considerable freedom, simplification, some distortion for effect, but should never offend.

We toss around rather freely the terms "modern", "contemporary" and especially "abstract." Originally the verb to abstract meant to draw from, and an abstract or an abstraction was the essence or summary of a larger comprehensive work, such as a manuscript or a book. Metaphysical connotations have developed; in art the term generally means the translation upon canvas of an emotional experience by the artist, using such non-representational means as geometric shapes or free forms, directional lines, textures, muted or harsh color, with little or no visible connection with the world of reality. Out of this often has come unusual and very fine design, some emotional response by the viewer (even anger), and at least his curiosity. The "abstraction" of the fine arts painter, as such, will have little meaning for the hard-headed members of an appropriations committee, or a corporation's board of directors. But in presentation, as in commercial design, the shapes and forms and devices of an abstract approach often give us an intriguing framework of design upon which to hang a solid message.

THE MORGUE

Though he strives for originality, every artist should keep that invaluable file, or "morgue", of clippings from magazines and the press, photographs, sketches, notes, and anything else for ready reference. Each person seems to develop his own filing system. Just so it works. Chronically, artists clip more than they file, to the distraction of those who must live with them. There may come an urgent request for a drawing of people in action, a street or industrial scene, animals, historical personages. One cannot keep a all this in his head; there will not be time to pose models or do library research. The good old "morgue" comes to the rescue.

There is a fine legal and moral distinction between plagiarism (direct stealing or "lifting") and being influenced or guided by another's work. Study all good styles and techniques, perhaps incorporate some measure of them into your own work as you develop. We cannot all be completely original. But at least do not steal.

TYPOGRAPHY

Twenty years ago it was good advice to a young artist to learn to do hand lettering well. That meant a job on a newspaper, in an advertising agency, a sign shop, or in the drafting room. We qualify that advice today. Fortunate is the staff with at least one expert hand-letterer, who can with his chisel-edged brush, skillfully and rapidly letter well-spaced, clean-edged copy on an exhibit panel, a presentation chart, a poster, or the cover for a publication. On many an occasion there is no substitute for hand lettering. May it never become a lost art.

Today it is important to develop also a knowledge of the broad field of typography. We can readily obtain most type, produced by some mechanical means. Good taste and a type book are standard equipment. Type has personality. What type faces are in character with a particular job? Which go best with each other? How large? How light or how bold for this page? How will they reproduce?

In presentation the simpler type forms are best, such as Sans Serif, Futura, or the modern Gothics. Also type is easier to read though planned somewhat smaller, with ample space between characters and lines, and plenty of air around the type area, than when these characters, lines and areas are too large and thus jammed together through a false notion of space economy.

An impression or proof of real type may now be used when a job is to be reproduced. Cut from sheets and applied by hand are Artype and Craftint. Others of a different sort are Fototype, Prestype, the Cox headliner, etc., etc. At least a couple of hundred type faces are thus available. Anyone can learn to apply them. Generally they enlarge or reduce very well, and can be printed in reverse. Also the electric typewriter provides simple, readable modern type characters quite satisfactory for some small-sized jobs. No longer is there any excuse for careless lettering.

The Leroy lettering set has proved a useful device in many situations. It has cleaned up the lettering on engineering drawings and statistical charts. It can be used frequently in presentation. Its templates are guides for simple, clean-cut letters and numerals of many sizes. Its pens give different thicknesses of line. Almost anyone can master it with a little practice. A trial run will indicate proper spacing in a tight area. On a large project, different people in different places can turn out parts of the same job, because on the "roughs" can be indicated the sizes of templates and pens to be used, insuring uniformity. Insist that pens always be cleaned after use.

The chief criticism of Leroy lettering is its monotony, always the same style of character. The answer can be a pleasing mixture with hand lettering, script, or type face, with reverses and color swatches.

COLOR

Preparing art for color film is perhaps the most fun. Everybody enjoys color and it does a job. It presents no real problem.

All water-soluble paints should be applied opaquely and evenly. When placed before the copying camera under intense lights, the sharp lens will penetrate a light wash of color. Separate strokes of heavier color upon a thin wash will be accentuated. An effect that seemed fairly even and smooth to the eye will look spotty upon the screen.

Areas and shapes of Color-Vu or Color-Aid paper photograph very well. Cut-outs in the form of human and other figures can be interesting and effective and combine well with other art. The airbrush gives smooth gradations of tone and color. Pastels may be used, especially on larger surfaces. Their brilliant colors will not copy as evenly as paint, papers or airbrush, but for variety, strokes of color or texture may be desirable. Use any technique that gives pleasing results.

When a piece of the art, whatever the medium, is placed on acetate, or "cels" as they are often called, it is important that the "cel" be clean and scratch-free. A paint or other material must be used which will not chip off before "shooting". Registry must be exact. A peg-board is recommended: holes punched in the cels uniformly fit over its two upright pegs. Seldom let one composite slide become more than four cels in depth, for then it begins to get too dense and color dull.

MISCELLANEOUS SUGGESTIONS

Leave ample margin around the main part of any chart. The camera man will then have plenty of room for focusing so that no unwanted, distracting edge or background shows on a slide. It never looks well to have things jammed against the frame. As within the design itself, it is best to have plenty of "air" around things for easier reading.

Study the projected image on the screen. Though an artist may rationalize how it should look, the real test is to see it projected. So acute is the camera lens and so sensitive the film that technique with fine lines and small shapes will be recorded upon the film and will carry to the screen. But, this detail is out of place and must yield to simple, bolder art which can be seen far back in the audience.

A photograph may be used as a background for the line or bar chart. A pale tone added by the airbrush will gray it down. Careful cropping, sometimes giving an interesting silhouette, will get rid of extraneous material in it, making the photograph the equivalent of an art element.

The drymounting process, using a hot press, is the best method for fastening thin things (except wax-backed Artype or Zipatone), to a base surface. It is permanent and does not buckle. To prevent air bubbles or blisters, both plates of the press, especially on humid days, should be warmed to eliminate moisture before the tacked down piece of art is inserted. Beware of wrinkles. When using a small press, apply pressure from the middle out toward the edges.

Rubber cement is handy and quick, but is not permanent and leaves a stain on some materials. Both surfaces should be covered with an even coat, allowed to dry, then carefully placed together, with a slip sheet assisting in the first placing of larger surfaces.

Finished art should be protected from rough handling. Large charts especially get dog-eared, nicked and dirty. A safe storage place is necessary. Those not too large may be covered with acetate sheets, even framed if worthy. If prepared for printing or photo copying, at least cover them with paper flaps. Constant exposure to light discolors most papers and boards. Finger prints are hard to clean off. It is amazing how art gets lost. Krylon "fixes" work done with a soft pencil or pastels which might otherwise rub off, but it darkens the surface it touches, and makes that surface slippery and difficult to work over again.

ART FOR THE OVERHEAD PROJECTOR

In the last decade the overhead projector has become so popular in presentation, briefing, and in teaching that an art staff should be prepared to produce slides, or "transparencies", for it. There is literature on the subject. Manufacturers' representatives give demonstrations, and visits to other art studios will help.

Of the several ways of making these transparencies, two seem to be in most general use. One method goes back many years. An older generation remembers hand-colored slides used by Burton Holmes in his popular travelogues. Later on, large transparencies in public exhibits were made by hand-coloring emulsion on the back of still larger glass plates. Today, film has replaced glass to a large extent. Direct color photography eliminate most hand-tinting. But if the services of a photo laboratory are readily available, it is no trick at all to prepare art in black and white, then have it copied on film (prefer-

ably reduced in size, thereby sharpening it up), to fit standard frames or mounts. The emulsion on the film combines with many brilliant dyes now on the market, in all colors, readily applied by brush or swabs of absorbent cotton. This type of transparency is especially effective in "reverse", when the background is opaquely black, with only the light areas tinted. Ammonia removes most of the dye when corrections are necessary.

If an art staff goes into the business of turning out transparencies in quantity, it may be well to adopt a second method - the Diazotype Process. Commercial firms can make these slides, even do the original art. But with a modest investment, this printing and developing equipment may be installed. A darkroom is not required.

In brief, it is a chemical process utilizing benzine-derived compounds known as "diazonium salts", or "diazos", which in the presence of an alkaline agent, such as ammonia, react with certain other coal-tar derivatives to form dyes. These latter are called "couplers", in themselves normally white or colorless. But, depending on the choice of coupler, the diazo may be of almost any color in the spectrum. Thus, chemically treated papers, cloth, or plastics are first exposed to ultraviolet light in a printing machine in contact with the original art or master slides, then exposed to ammonia in the developing machine which brings out the image on film, ready for mounting and projection.

The original, or master, for Diazo-Chrome transparencies and overlays can be any opaque drawing or other piece of art on translucent tracing paper, tracing cloth, or on various films. It may also be on any transparent film of proper size previously enlarged or reduced by the photographic laboratory. A positive original produces a positive print; a negative original produces a negative print.

The surface of this material should have sufficient "tooth" so that ink from the artist's brush or pen flows upon it and adheres. It should also take tapes, Artype, other lettering, etc., when they can be affixed. As there will be no reduction in size when printed, an artist may want to experiment with his technique for best results when projected upon the screen. Be sure the base material has maximum translucency for the passage of light, and that the art upon it is densely opaque. An ink line freely drawn for reproduction by a printing process for a publication may not be opaque enough for the Diazochrome slide. Making the drawing, or checking it, over a light-box is advisable.

There is never excuse for sloppy art. Something is wrong when bad art shows upon the screen. All the trial-and-error part of a drawing can first be done on a scratch pad, then traced upon the transparency, and rendered with speed and skill. Lettering can be clean, legible and look like real type for, with proper exposure in printing, wax on the back of Artype, as well as Zipatone, and the cut edges of their acetate base, will completely disappear. With some experimenting, pencil and crayon will give softer and more graduated shading than can be gotten with ink.

When the basic drawing, generally printed in black, is completed, the successive overlays can be drawn. These will be printed separately in other colors, and must be in

exact registry. Then, all will be fastened in proper order in the cardboard frame, or mount, ready for projection. A slide is referred to as "static" when all overlays are together permanently as a single unit. It is "dynamic" when above the basic black slide, which is mounted securely at all four edges, are the others so hinged that they can be flopped or lifted (lowered or raised) separately, in proper order, to build up or take apart the component image, coordinated with the discussion by the speaker. This is the novel so-called "animation" feature.

There are numerous variations and refinements of the Diazotype process. One is a new material which produces as many as five colors on a single print. Another is a method by which a natural color photograph may be simulated by filter separation of the primary colors. Here, as in other areas of the broad field of art and graphics, an artist should keep alert for new techniques and new materials as they come upon the market.

THE CRASH JOB

Tight deadlines sometimes are inescapable, even unreasonable. The speed and facility of the staff may be taxed to the limit, long hours of overtime necessary. Most will respond nobly under pressure, but when such conditions become the rule, quality and morale suffer. Everyone regrets not having time enough for the best possible job. Under "crash" conditions, short cuts and mechanical aids must be used, parts of other jobs salvaged, and old ideas dragged out, for we cannot always grope for new ones.

The larger staff can set up an assembly line. As fast as preliminary sketches are approved someone can lay out the design, another person can cut and dry-mount areas of color paper and other material, artists can grind out illustrations, and letterers the words and figures. Someone, too, should be assigned the task of "handling" the client if he proposes a last minute change of a finished chart.

There is no place for the prima donna, the griper, or the guy who always has a headache or a date just before the deadline. As the clock ticks off the hours, and the night watchman makes his rounds, lots of black coffee, sandwiches and a lively radio program help keep up energy and spirits. A sense of humor, wisecracks, and a little cussing help. In the morning, somewhat bleary-eyed but with some pride and satisfaction, the graphics chief can deliver the finished job to the "Big Boss".

Some years ago an author's first best seller was published. Inside the cover of a complimentary copy he scrawled this appropriate inscription for his secretary, "To Nell, who really wrote the d____ thing!"

Good presentation involves the thinking, planning, imagination and skills of a lot of people. Not the least of these folks are the indispensable men and women at drawing boards. To them a client owes commendation for a job well done.

Bibliography

A search of publisher's catalogues and the card index of the Library of Congress reveals only a limited number of helpful books on chartmaking and presentation. Most of these are of interest to the statistician rather than to the presentation specialist. The following have been selected:

- "Charting Statistics", by Mary Eleanor Spear,
Visual Information Specialist, U. S. Department of Labor;
McGraw Hill Book Co., Inc., New York, 1952
- "Graphic Presentation, Handbook of", Calvin F. Schmid, University
of Washington (Seattle); The Ronald Press, New York, 1954
- "Pictographs and Graphs. How to Make and Use Them",
by Rudolph Modley and Dyno Lowenstein; Harper and Brothers,
New York, 1952
- "Practical Rules for Graphic Presentation of Business Statistics",
L. Edwin Smart, Ph.D., and Sam Arnold, Ph.D.;
Ohio State University, Columbus, Ohio
- "Presentation of Ideas"; Publications Division, Administrative Office,
Department of the Navy, Washington, D. C.,
1955 (NavExos P-1516)

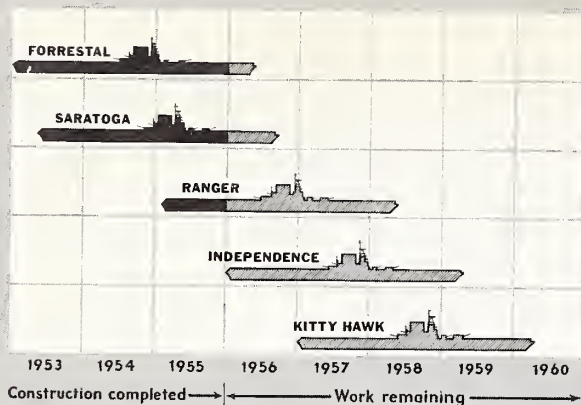
There are these booklets and papers in our field:

- The several published by Technifax Corporation, Holyoke, Mass.
- "How the Presentation Specialist Can Assist You",
Office Chief of Staff, Department of the Army,
Coordination Group, 1961
- "Presentation Pointers", Office of the Secretary of Defense,
612 B

Also, excellent graphics are often used in "Fortune Magazine", and in the annual reports of leading American corporations.

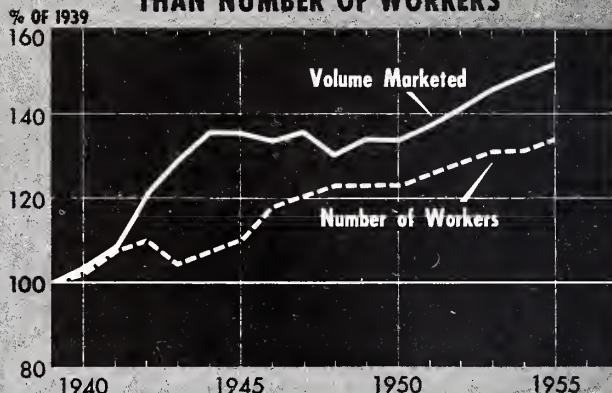
There would seem to be need for more and continuing study of presentation, briefing, and orientation methods, utilizing new techniques and equipment as developed, all with the aim of rapidly and accurately imparting information from one set of minds to another.

CONSTRUCTION SCHEDULE FOR NEW CARRIERS



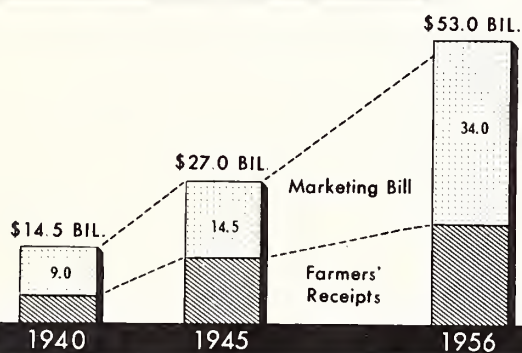
Courtesy U.S. Navy

VOLUME OF FOOD MARKETED UP MORE THAN NUMBER OF WORKERS

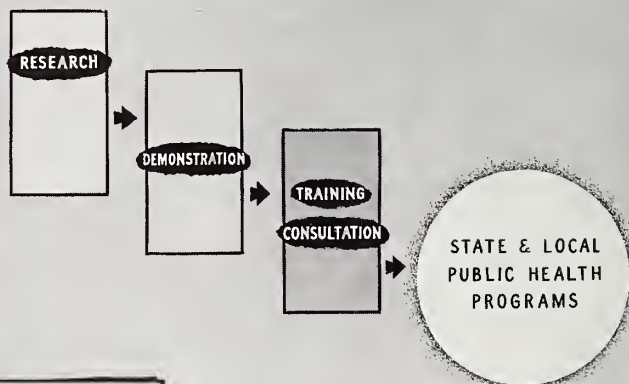


See Table 98
AMS, NER, 1954-55, CO.

1956 Marketing Bill 4 Times That of 1940



Translating Knowledge into Practice



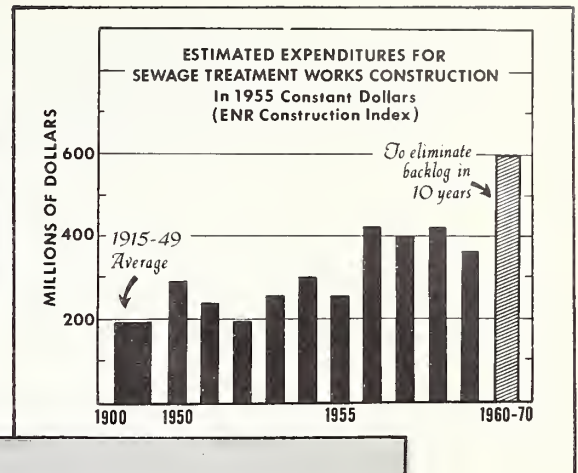
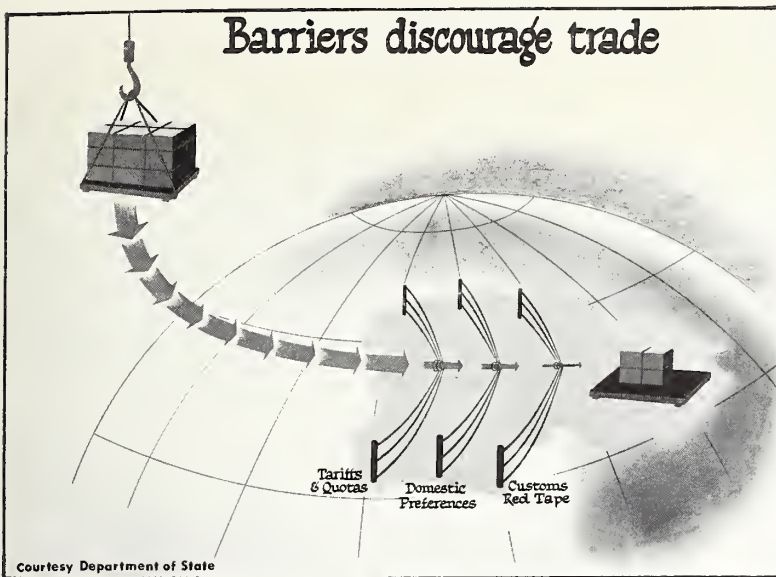
FAMILY PHYSICIANS* PER 100,000 POPULATION

1931	94
1940	89
1949	75
1957	60



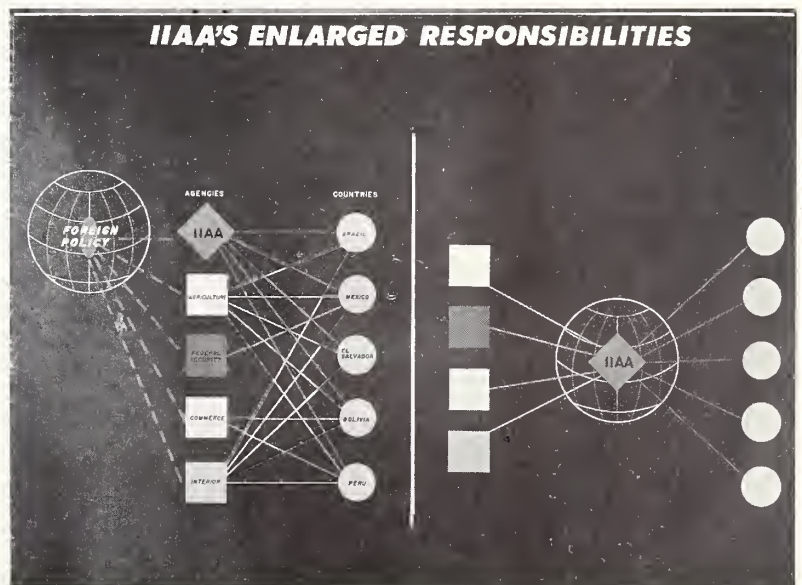
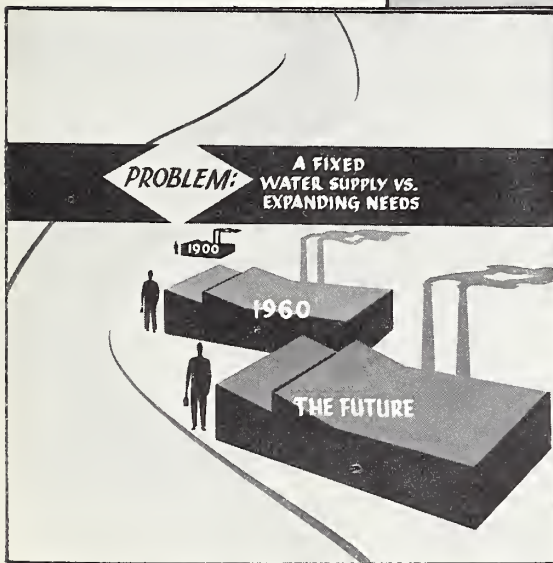
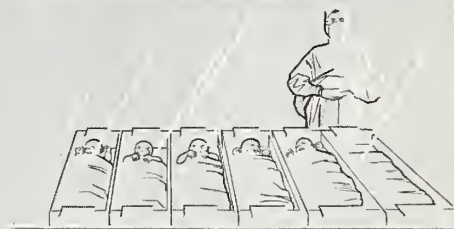
*G.P.'s plus pediatricians and internists

SOME
EXAMPLES OF
PRESENTATION
CHARTS



PERCENT OF BIRTHS IN HOSPITALS

1937	1947	1957
45%	85%	96%



Economic instability is fostered by ec

PREFERENCES HIGH TARIFFS CARTELS

WORLD ECONOMY



EXAMPLES OF
PRESENTATION
CHARTS

BSS

WHAT LIES AHEAD ?



ADEQUATE BASIC HEALTH SERVICES

IMPROVEMENT IN WORLD HEALTH

COMMUNICABLE DISEASES

CHRONIC DISEASES

CHANGING ENVIRONMENT

BSS

BY-PRODUCTS OF INDUSTRIAL TECHNOLOGY



22

GROWTH OF UNITED STATES ECONOMY

(IN 1957 DOLLAR VALUES)

1937

129 Million



POPULATION

\$197 Billion



GROSS NATIONAL PRODUCT

COURTESY GENERAL ELECTRIC COMPANY

GROWTH OF UNITED STATES ECONOMY

(IN 1957 DOLLAR VALUES)

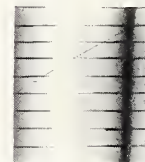
1957

171 Million



POPULATION

\$434 Billion



GROSS NATIONAL PRODUCT

